

IN THE CLAIMS:

1. (Currently Amended) A constant velocity joint in the form of a counter track joint comprising:

an outer joint part comprising a first longitudinal axis (A_{12}) and an attaching end and an aperture end which are axially opposed relative to one another, and first outer ball tracks and second outer ball tracks;

an inner joint part comprising a second longitudinal axis (A_{22}) and an attaching mechanism for a shaft pointing to the aperture end of the outer joint part, and first inner ball tracks and second inner ball tracks, the first outer ball tracks and the first inner ball tracks form first pairs of tracks with one another, and the second outer ball tracks and the second inner ball tracks form second pairs of tracks with one another, the pairs of tracks each accommodate a torque transmitting ball; and

a ball cage positioned between the outer joint part and the inner joint part and comprising circumferentially distributed cage windows which each accommodate at least one of the balls;

wherein, when the joint is in the aligned condition, an aperture angle (δ_1) of the first pairs of tracks opens in a central joint plane (E) from the aperture end to the attaching end of the outer joint part;

wherein, when the joint is in the aligned condition, an aperture angle (δ_2) of the second pairs of tracks opens in the central joint plane (E) from the attaching end to the aperture end of the outer joint part, and

~~wherein central track lines (L_{18} , L_{19}) of the first pairs of tracks each have a turning point ($T_{1,2}$) and wherein, a center angle (β) from the joint center M to the turning point ($T_{1,2}$), with reference to the central joint plane (E), is greater than 4° .~~

wherein central track lines (L_{18} , L_{19}) of the first pairs of tracks each have a curvature with a radius (R_2) around a center point (M_2), said center point (M_2) being in an offset plane extending parallel to the central joint plane (E) and having an axial distance (O_2) therefrom;

wherein, furthermore, said central track lines (L_{18} , L_{19}) each have a turning point (T_{1-2}), said turning point (T_{1-2}) forming a transition from said curvature with radius (R_2) into a counter-curvature or into a straight line;

wherein, a center angle (β) being defined between said central joint plane (E) and a line through said joint center M and said turning point (T_{1-2}), said center angle (β) being greater than 4° ; and

wherein, a turning point angle (α) being defined between said offset plane and a line through said center point (M_2) and said turning point (T_{1-2}), said turning point angle (α) being within a range of $10^\circ \leq \alpha \leq 18^\circ$.

2-35. (Cancelled)

36. (Previously Presented) A constant velocity joint according to claim 1, wherein the center angle (β) from the joint center M to the turning point (T_{1-2}), with reference to the central joint plane (E), is greater than 5° .

37. (Previously Presented) A joint according to claim 1, wherein the center angle (β) from the joint center M to the turning point (T_{1-2}), with reference to the central joint plane (E), is less than 12° .

38. (Currently Amended) A constant velocity joint according to claim 1, wherein ~~a tangent at the central track lines (L_{18} , L_{19}) of the first pairs of tracks in the turning point (T_{1-2}) forms a turning point angle (α) with the respective longitudinal axis (A_{12} , A_{22}), and a perpendicular line on said tangent forms a~~ the turning point angle (α) with the central joint plane (E), which is defined by

$$\alpha \geq \beta + \arcsin \left[\frac{O_2}{R_2} - \sin(\beta + 90^\circ) \right]$$

wherein O_2 is an axial distance of the point of intersection of a perpendicular line on the tangent and the respective longitudinal axis (A_{12} , A_{22}) from the central joint plane (E), and wherein R_2 is the distance of said point of intersection from the turning point (T_{1-2}).

39. (Currently Amended) A constant velocity joint according to claim 38, wherein the turning point angle (α) is defined by:

$$\alpha \geq \beta + \arcsin \left[\frac{O_2 + a \cdot \tan(\beta)}{R_2} - \sin(\beta + 90^\circ) \right]$$

when the ~~respective central track line (L₁₈, L₁₉) from the central joint plane (E) to the turning point (T_{1,2})~~ comprises a radius (R₂) whose center point (M₂) of said radius (R₂) comprises an axial distance (O₂) from the central joint plane (E) and a radial distance (a) from the respective longitudinal axis (A₁₂, A₂₂) towards the turning point (T_{1,2}).

40. (Currently Amended) A constant velocity joint according to claim 38, wherein the turning point angle (α) is defined by:

$$\alpha \geq \beta + \arcsin \left[\frac{O_2 - b \cdot \tan(\beta)}{R_2} - \sin(\beta + 90^\circ) \right]$$

when the ~~respective central track line (L₁₈, L₁₉) in the central joint plane (E) up to the turning point (T_{1,2})~~ comprises a radius (R₂) whose center point (M₂) of said radius R₂ comprises an axial distance (O₂) from the central joint plane (E) and a radial distance (b) from the respective longitudinal axis (A₁₂, A₂₂) towards the turning point (T_{1,2}).

41. (Previously Presented) A constant velocity joint according to claim 1, wherein the central track lines (L₁₈, L₁₉) comprise a radius (R₂) and, as from the turning point (T_{1,2}), a counter radius (R₁).

42. (Previously Presented) A constant velocity joint according to claim 1, wherein the central track lines (L₁₈, L₁₉) comprise a first radius (R₂) and, as from the turning point (T_{1,2}), a counter radius (R₁) as well as a smaller radius (R₃) which smaller radius (R₃) adjoins the first radius (R₂) on the opposite side and has the same sense of curvature.

43. (Previously Presented) A constant velocity joint according to claim 1, wherein the central track lines (L₁₈, L₁₉) comprise a first radius (R₂), a straight line following the first radius (R₂) from the turning point (T_{1,2}) on, and a smaller radius (R₃), which smaller radius (R₃) adjoins the first radius (R₂) on the opposite side and has the same sense of curvature.

44. (Previously Presented) A constant velocity joint according to claim 1, wherein central track lines (L₂₀, L₂₁) of the second ball tracks comprise a radius (R₅) and an axis-parallel straight line which follows the radius (R₅) towards the aperture end.

45. (Previously Presented) A constant velocity joint according to claim 1, wherein central track lines (L_{20} , L_{21}) of the second ball tracks comprise a radius (R_5) and a counter radius (R_4) which follows towards the aperture end.

46. (Previously Presented) A constant velocity joint according to claim 1, wherein the central track lines (L_{20} , L_{21}) of the second ball tracks are formed of a single radius (R_5).

47. (Previously Presented) A constant velocity joint according to claim 1, wherein the joint is 6-ball joint.

48. (Previously Presented) A constant velocity joint according to claim 1, wherein the joint is 8-ball joint.

49. (Previously Presented) A constant velocity joint according to claim 1, wherein the cage windows for the first balls are shorter in the circumferential direction than the cage windows for the second balls.

50-65. (Cancelled)

66. (Previously Presented) A driveshaft comprising two constant velocity joints and an intermediate shaft, wherein at least one of the constant velocity joints is a constant velocity joint according to claim 1.

67. (Previously Presented) A driveshaft according to claim 66, wherein the intermediate shaft comprises an axial plunging unit.

68. (Previously Presented) A motor vehicle having at least two driveshafts which each comprise two constant velocity joints and an intermediate shaft and which each, in the form of sideshafts, connect a differential drive with a wheel hub unit, wherein at least one of the joints of each driveshaft is a joint according to claim 1 and wherein a shaft journal of same is inserted into the differential drive.

69. (Previously Presented) A motor vehicle having at least two driveshafts which each comprise two constant velocity joints and an intermediate shaft and which each, in the form of sideshafts, connect a differential drive with a wheel hub unit, wherein at least one of the joints of each driveshaft is a joint according to claim 1 and wherein a shaft journal of same is inserted into the wheel hub unit.